

Information for Contributorsii

IUPAC-NIST Solubility Data Series. 81. Hydrocarbons with Water and Seawater—Revised and Updated. Part 1. C₅ Hydrocarbons with Water 441

Andrzej Maczynski and David G. Shaw

The mutual solubilities and related liquid-liquid equilibria of C₅ hydrocarbons with water are exhaustively and critically reviewed. Reports of experimental determination of solubility in 13 chemically distinct binary systems for which data appeared in the primary literature prior to the end of 2002 are compiled. A new method based on the evaluation of all experimental data for a given homologous series of saturated or unsaturated aliphatic hydrocarbons was used.

IUPAC-NIST Solubility Data Series. 81. Hydrocarbons with Water and Seawater—Revised and Updated. Part 2. Benzene with Water and Heavy Water 477

Andrzej Maczynski and David G. Shaw

The mutual solubility and related liquid-liquid equilibria of benzene with water and heavy water are exhaustively and critically reviewed. Reports of experimental determination of solubility in these two chemically distinct binary systems that appeared in the primary literature prior to the end of 2002 are compiled. A new method based on the evaluation of all experimental data for a homologous series of aromatic hydrocarbons was used.

The Dissociation Enthalpies of Terminal (N-O) Bonds in Organic Compounds 553

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Dissociation enthalpies of terminal (N-O) bonds, DH^0 (N-O), in amine *N*-oxides, nitrile *N*-oxides, pyridine *N*-oxides, quinoxaline 1,4-dioxides, furoxans, nitrones, azoxy-derivatives, azo-*N,N*-dioxides, nitro-compounds, nitramines, and alkyl nitrates are calculated from published enthalpy of formation, enthalpy of sublimation, and enthalpy of vaporization data. For each class of organic compounds, the calculated DH^0 (N-O) values are critically evaluated. The derived DH^0 (N-O) values can be used to estimate enthalpies of formation of other molecules in each of these classes of organic compounds.

IUPAC Critical Evaluation of Thermochemical Properties of Selected Radicals. Part I..... 573

Branko Ruscic, James E. Boggs, Alexander Burcat, Attila G. Császár, Jean Demaison, Rudolf Janoschek, Jan M. L. Martin, Melita L. Morton, Michel J. Rossi, John F. Stanton, Péter G. Szalay, Phillip R. Westmoreland, Friedhelm Zabel, Tibor Bérces

This is the first part of a series of articles reporting critically evaluated thermochemical properties of selected free radicals. The present article contains datasheets for CH, CH₂(triplet), CH₂(singlet), CH₃, CH₂OH, CH₃O, CH₃CO, C₂H₅O, C₆H₅CH₂, OH, and NH₂. The present evaluation is a systematic utilization of available kinetic, spectroscopic, and ion thermochemical data as well as high-level theoretical results.

IUPAC-NIST Solubility Data Series. 81. Hydrocarbons with Water and Seawater—Revised and Updated. Part 3. C₃H₈–C₆H₁₂ Hydrocarbons with Water and Heavy Water 657

Andrzej Maczynski and David G. Shaw

The mutual solubility and related liquid-liquid equilibria of C₃H₈–C₆H₁₂ hydrocarbons with water and heavy water are exhaustively and critically reviewed. Reports of experimental determination of solubility in 11 chemically distinct binary systems that appeared in the primary literature prior to the end of 2002 are compiled. A new method based on the evaluation of all experimental data for a given homologous series of saturated or unsaturated aliphatic hydrocarbons was used.

IUPAC-NIST Solubility Data Series. 81. Hydrocarbons with Water and Seawater—Revised and Updated. Part 4. C₆H₁₄ Hydrocarbons with Water 709

Andrzej Maczynski and David G. Shaw

The mutual solubility and related liquid-liquid equilibria of C₆H₁₄ hydrocarbons with water are exhaustively and critically reviewed. Reports of experimental determination of solubility in five chemically distinct binary systems that appeared in the primary literature prior to the end of 2002 are compiled. A new method based on the evaluation of all experimental data for a given homologous series of saturated or unsaturated aliphatic hydrocarbons was used.

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